

GROSJEAN et al  
Appl. No. 10/579,227  
February 19, 2008

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**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1 (currently amended). Polymer of ethylene which has:  
a  $\mu_0/\mu_2$  ratio of ~~at least 13~~ 13 to 20; and  
a high load melt index HLMI lower than 8 g/10 min, and  
a value of  $\tan \delta$  at  $\omega/\omega_c = 0.01$  of less than 1.3, where  $\delta$  is  $G''/G'$ ,  $\omega$  is the frequency at which  $G''$  and  $G'$  are measured and  $\omega_c$  is the frequency at which  $G'' = G'$ , and  $G'$  and  $G''$  are respectively the elastic modulus and viscous modulus, both measured in Pa at 190°C.
- 2 (original). Polymer according to claim 1, which has a  $\mu_0/\mu_2$  ratio of at least 14.
- 3 (previously presented). Polymer according to claim 1, having a density D (measured according to ASTM D 792 standard) of between 930 and 955 kg/m<sup>3</sup>.
- 4 (currently amended). Polymer according to claim 1, having a Pent test value (determined in accordance with ASTM F 1473-94 standard) higher than 150 hours.
- 5 (previously presented). Polymer according to claim 1, having a polydispersity index greater than 50.

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6 (currently amended). Process for the preparation of a polymer of ethylene which has a  $\mu_1/\mu_2$  ratio of ~~at least 13~~ 13 to 20 and a high load melt index HLMI lower than 8 g/10 min, ~~wherein comprising contacting~~ ethylene, and optionally at least one higher alpha-olefin, ~~are contacted~~ with a catalyst comprising chromium supported on a silica-titania support.

7 (original). Process according to claim 6, which is conducted in the absence of a cocatalyst.

8 (currently amended). Process according to claim 6, wherein the polymer ~~is as defined above~~ has a value of  $\tan \delta$  at  $\omega/\omega_c = 0.01$  of less than 1.3, where  $\delta$  is  $G''/G'$ ,  $\omega$  is the frequency at which  $G''$  and  $G'$  are measured and  $\omega_c$  is the frequency at which  $G'' = G'$ , and  $G'$  and  $G''$  are respectively the elastic modulus and viscous modulus, both measured in Pa at 190°C.

9 (previously presented). Process according to claim 6, wherein the catalyst contains between 0.8 and 1.5 weight % of chromium and between 1.9 and 3.1 weight % of titanium on the support, based on the weight of the support; and the support has a specific surface area SA (measured in accordance with British Standard BS 4359/1) of between 450 and 550 m<sup>2</sup>/g, a pore volume PV (measured by BET N<sub>2</sub> analysis using desorption isotherm and considering only radii of pores equal to at least 300 Angstroms)

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of between 1.8 and 2.7 ml/g, and an average pore diameter between 120 and 200 Angstroms.

10 (currently amended). Pipe comprising a polymer of ethylene as defined in claim 1.

11 (currently amended). ~~Use, Process for the manufacture of pipes by~~  
~~extrusion, of a pipe, comprising extruding a polymer of ethylene as defined in claim 1.~~